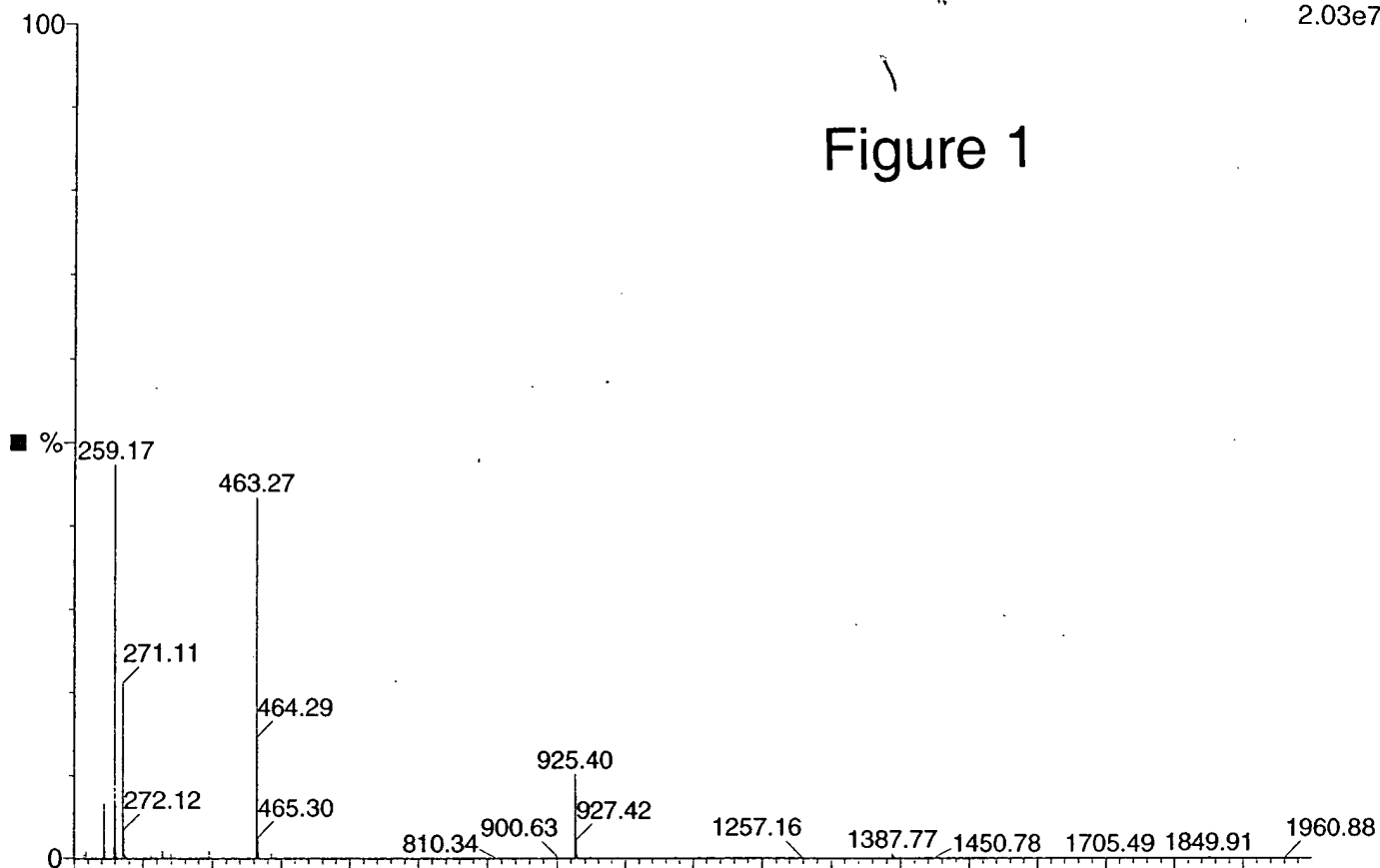


ECO04601Batch134_024_01_R1

ECO04601Batch134_024_01_R1 900 (45.030)

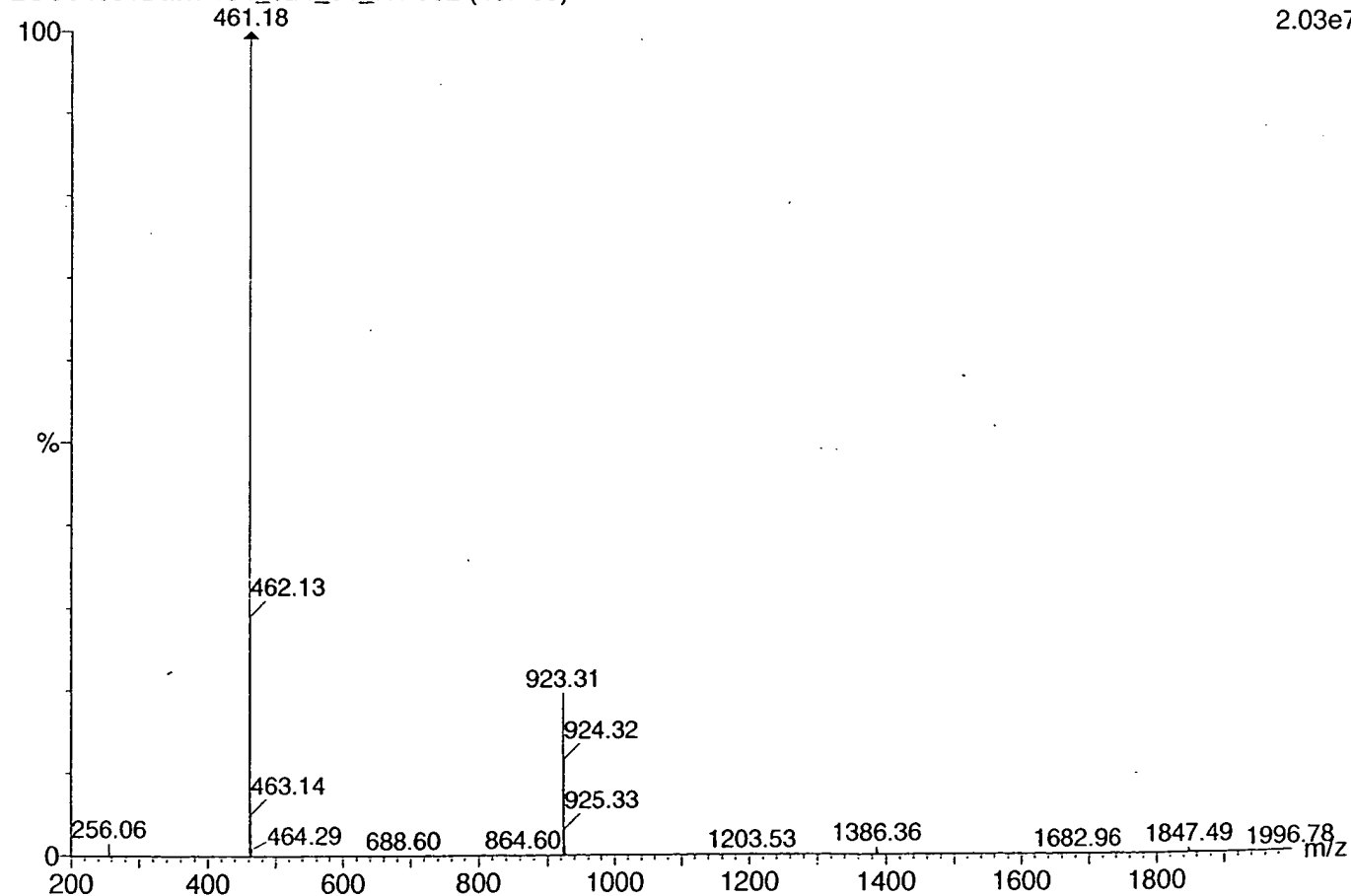
2: Scan ES+
2.03e7

Figure 1



ECO04601Batch134_024_01_R1 902 (45.105)

1: Scan ES-
2.03e7



ECO04601Batch134_024_01_R1
ECO04601Batch134_024_01_R1 2701 (45.120)

3: Diode Array
3.11e6

Figure 2

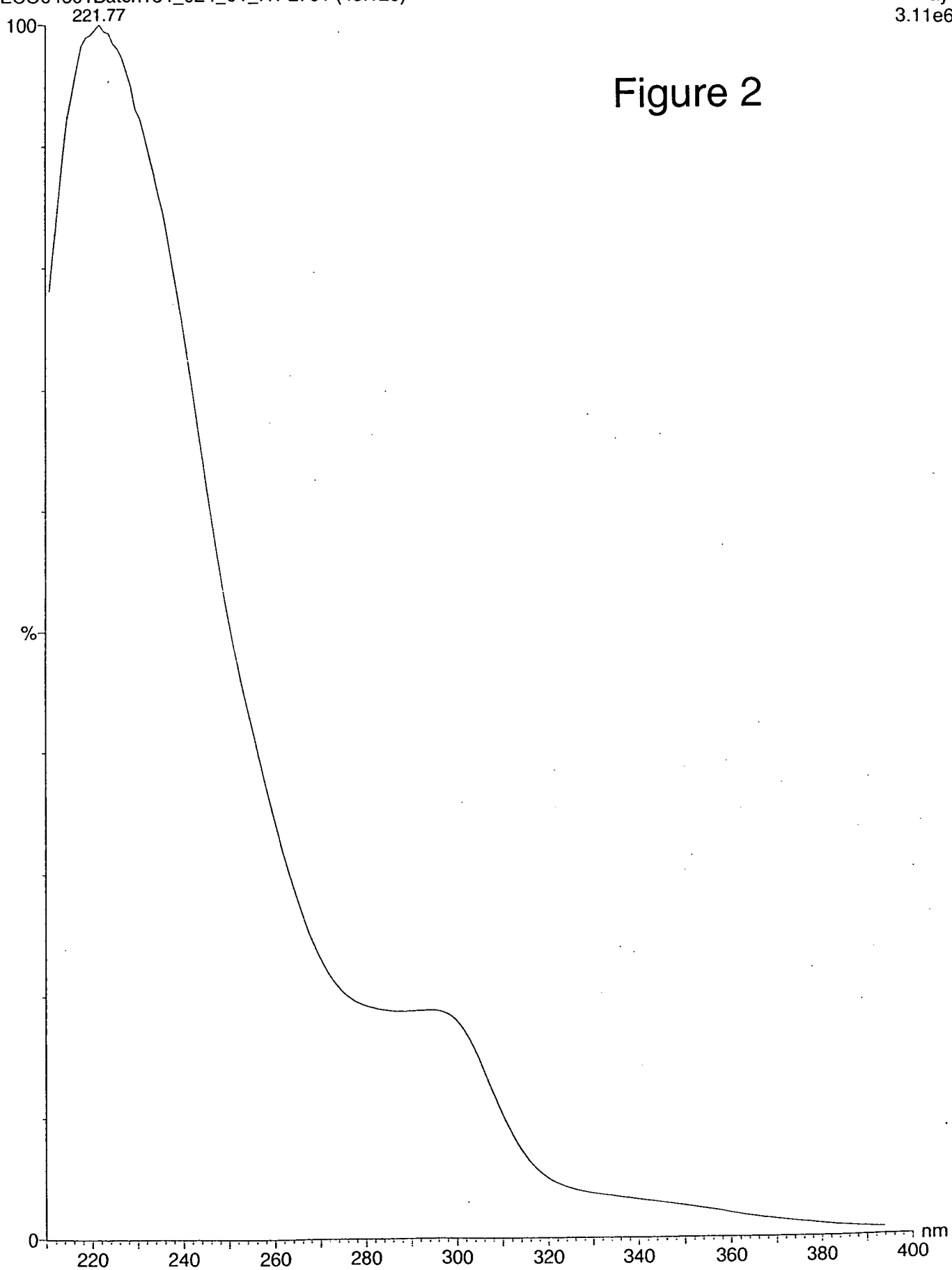
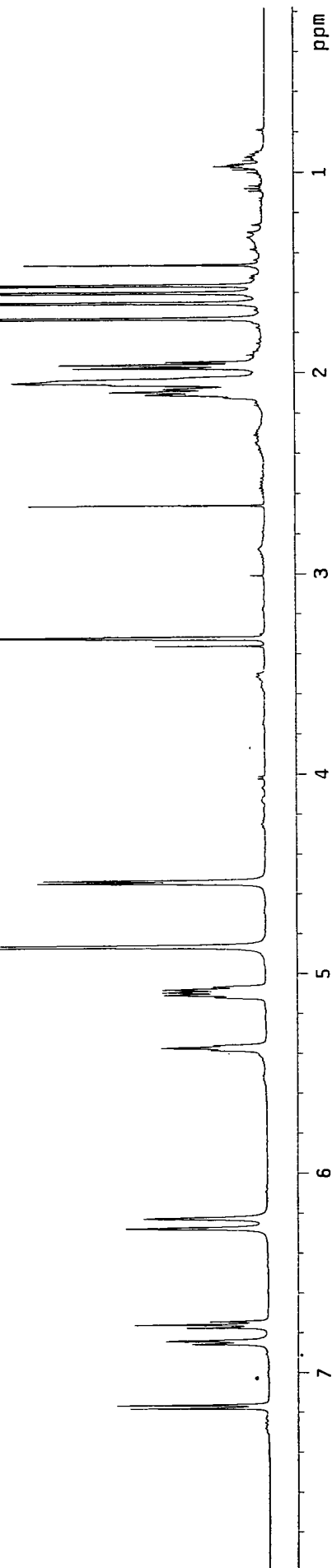


Figure 3

```

S01_046CIA07019e1002_run2_C0300_H
exp1 s2pu1
SAMPLE DEC. & VT
date Jan 9 2004 dfrq 499.752
solvent C0300 dn H1
file /import/thor/~ dpwr 30
cbchem/NMR_Data/m~ dof 0
orris/S01_046CIA07~ dm nnn
019e1002_run2_C030~ dmm c
D_H.fid dmf 200
ACQUISITION dseq
sfrq 499.752 dres 1.0
tn H1 homo n
at 1.892 temp PROCESSING 25.0
np 14798
sw 3910.5 wfile
fb 2000 proc ft
bs 32 fn not used f
tpwr 59 math
pw 5.5
dl 1.500 werr
tof -457.0 wexp
nt 64 wbs
ct 64 wnt wft
gain not used n
FLAGS
il n
in n
dp y
hs nn
DISPLAY
sp 87.1
wp 3910.0
vs 401
sc 0
wc 250
hzmm 15.64
ls 33.57
rfl -86.6
rfp 0
th 7
nm cdc ph 100.000

```

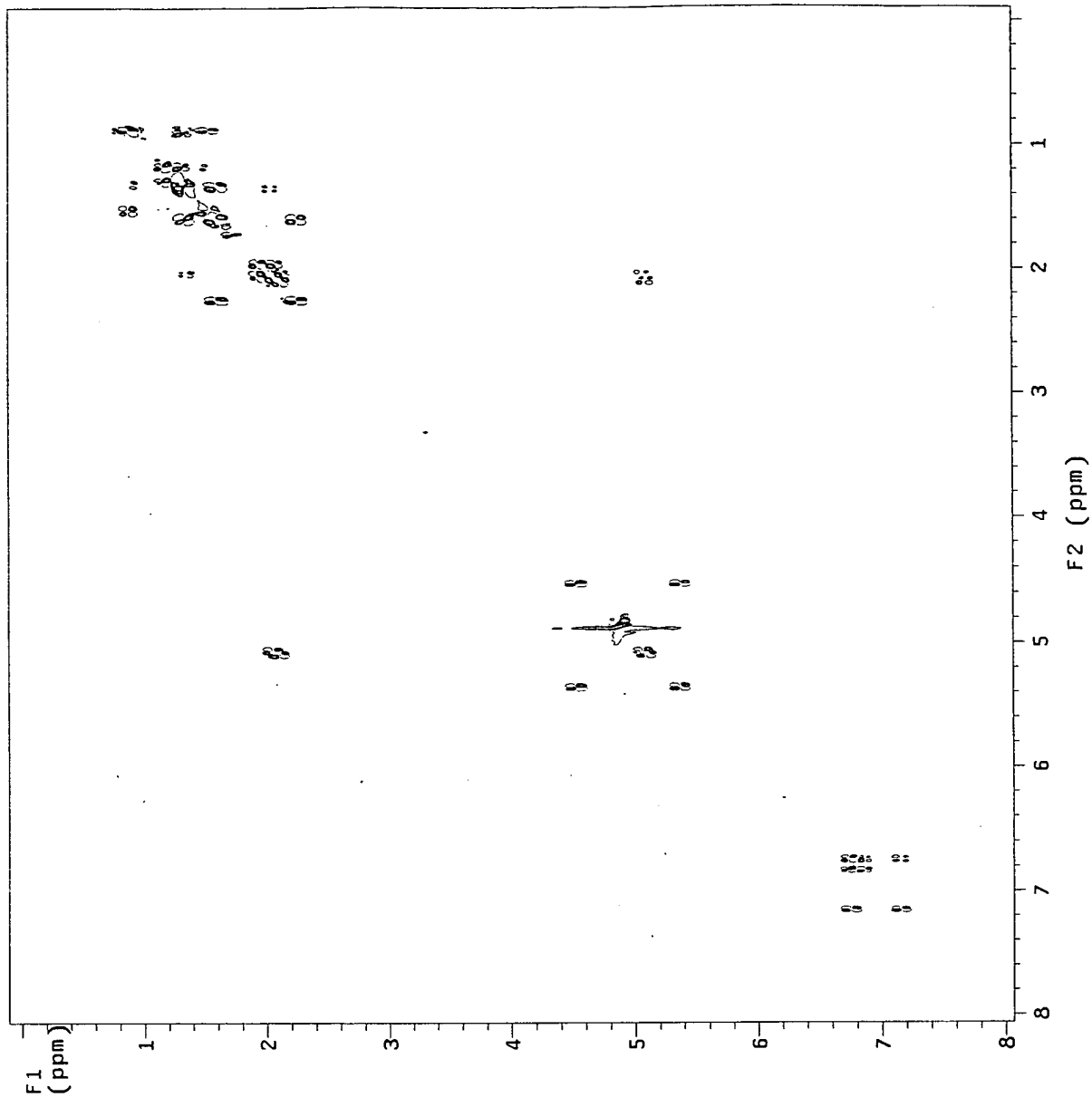


STANDARD PROTON PARAMETERS

Pulse Sequence: gDQCOSY
 Solvent: CD3OD
 Ambient temperature
 File: ECO04601_DQCOSY_CD3OD
 INOVA-500 "resonance"

Relax. delay 1.000 sec
 Acq. time 0.125 sec
 Width 4085.0 Hz
 20 Width 4085.0 Hz
 16 repetitions
 2 x 102 increments
 OBSERVE H1, 499.7495793 MHz
 DATA PROCESSING
 Sq. sine bell 0.125 sec
 Shifted by -0.125 sec
 F1 DATA PROCESSING
 Sq. sine bell 0.025 sec
 Shifted by -0.025 sec
 FT size 2048 x 2048
 Total time 1 hr, 3 min, 46 sec

Figure 4



STANDARD PROTON PARAMETERS

Pulse Sequence: ghsqc

Solvent: CD30D

Ambient temperature

File: EC004601_ghsQC_CD30D

INOVA-500 "resonance"

Relax. delay 1.000 sec

Acq. time 0.125 sec

Width 4085.0 Hz

20 Width 22618.0 Hz

64 repetitions

2 x 128 increments

OBSERVE H1, 499.7495793 MHz

DECOUPLE C13, 125.6734093 MHz

Power 41 dB

on during acquisition

off during delay

W40 id4719 modulated

DATA-PROCESSING

Sq. sine bell 0.125 sec

Fl Shifted by -0.125 sec

F1 DATA PROCESSING

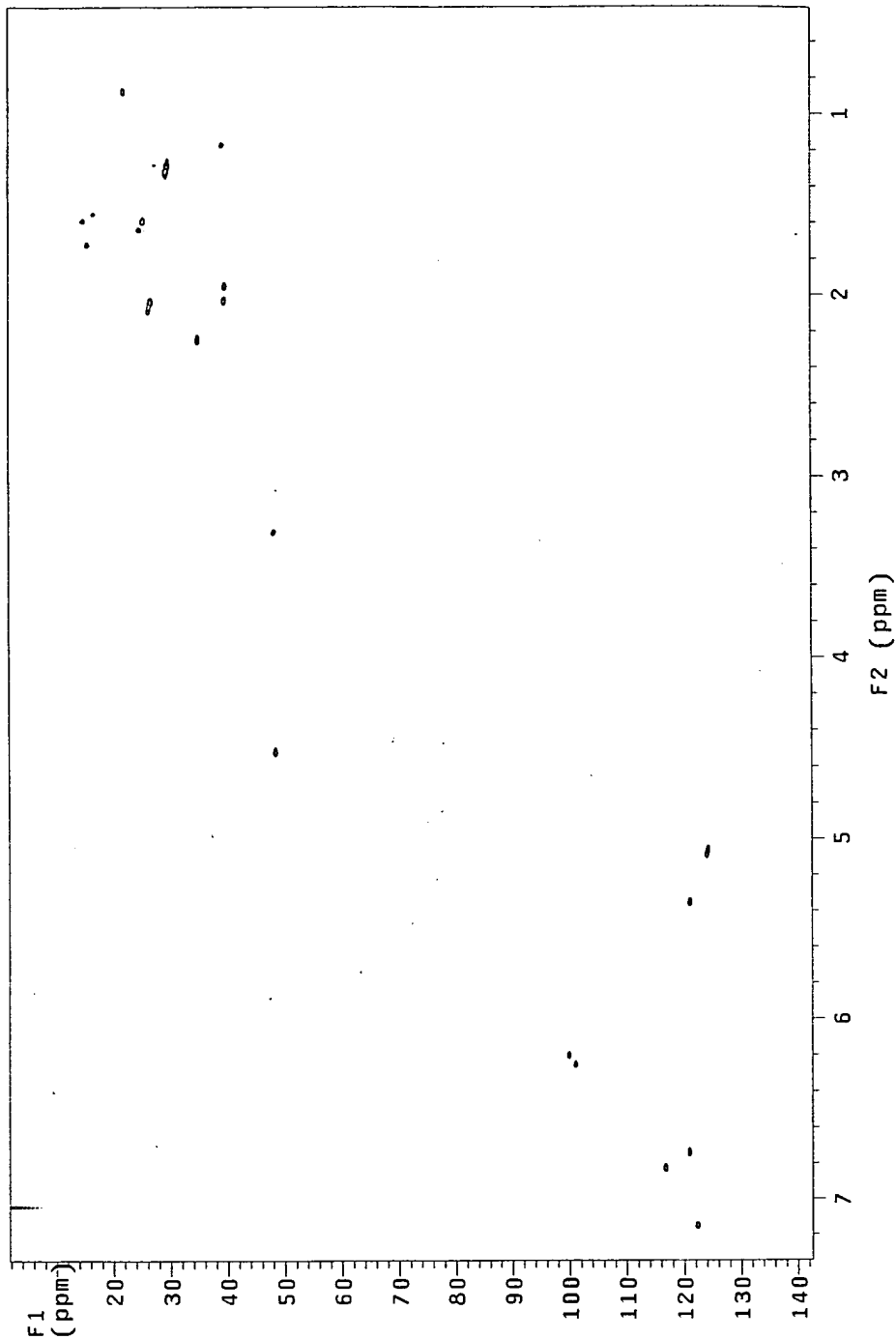
Sq. sine bell 0.023 sec

Shifted by -0.023 sec

FT size 2048 x 2048

Total time 5 hr, 27 min, 23 sec

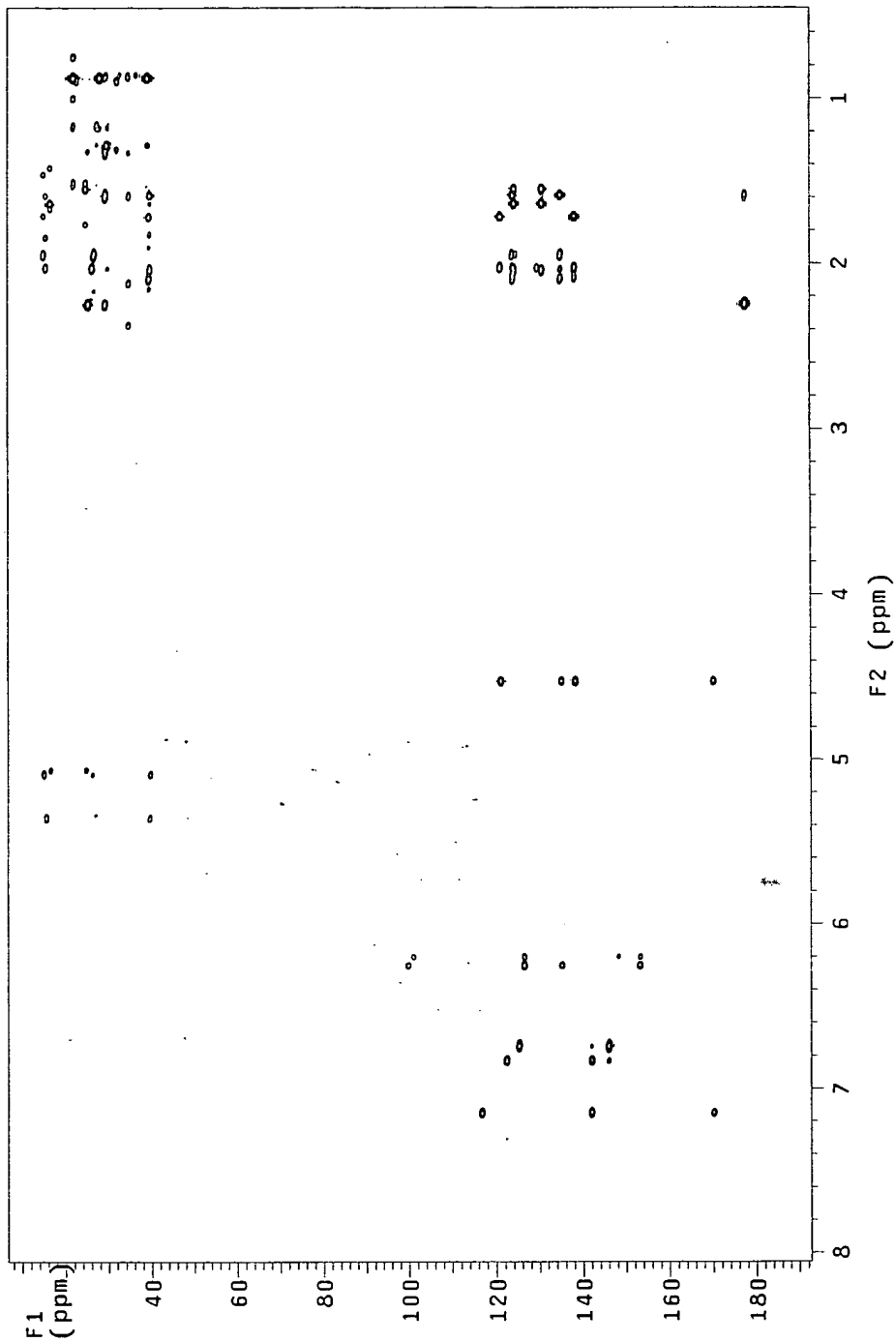
Figure 5



STANDARD PROTON PARAMETERS

Pulse Sequence: gHMBC
 Solvent: CD3OD
 Ambient temperature
 File: EC004601_HMBC2_CD3OD
 INOVA-500 "resonance"
 Relax. delay 1.000 sec
 Acq. time 0.125 sec
 Width 4085.0 Hz
 20 Width 28301.7 Hz
 64 repetitions
 400 increments
 OBSERVE H1, 499.7495793 MHz
 DATA PROCESSING
 Sine bell 0.063 sec
 F1 DATA PROCESSING
 Sine bell 0.007 sec
 FT size 2048 x 8192
 Total time 8 hr, 33 min, 13 sec

Figure 6



STANDARD PROTON PARAMETERS

Pulse Sequence: NOESY
 Solvent: CD300
 Ambient temperature
 File: noesy_brian_august09_2002
 INOVA-500 "resonance"
 Relax. delay 1.000 sec
 Mixing 0.600 sec
 Acq. time 0.125 sec
 Width 4085.0 Hz
 20 Width 4085.0 Hz
 16 repetitions
 2 x 256 increments
 OBSERVE H1, 499.7495793 MHz
 DATA PROCESSING
 Sg. sine bell 0.125 sec
 Shifted by -0.125 sec
 F1 DATA PROCESSING
 Sg. sine bell 0.063 sec
 Shifted by -0.063 sec
 FT size 4096 x 4096
 Total time 4 hr, 2 min, 2 sec

Figure 7

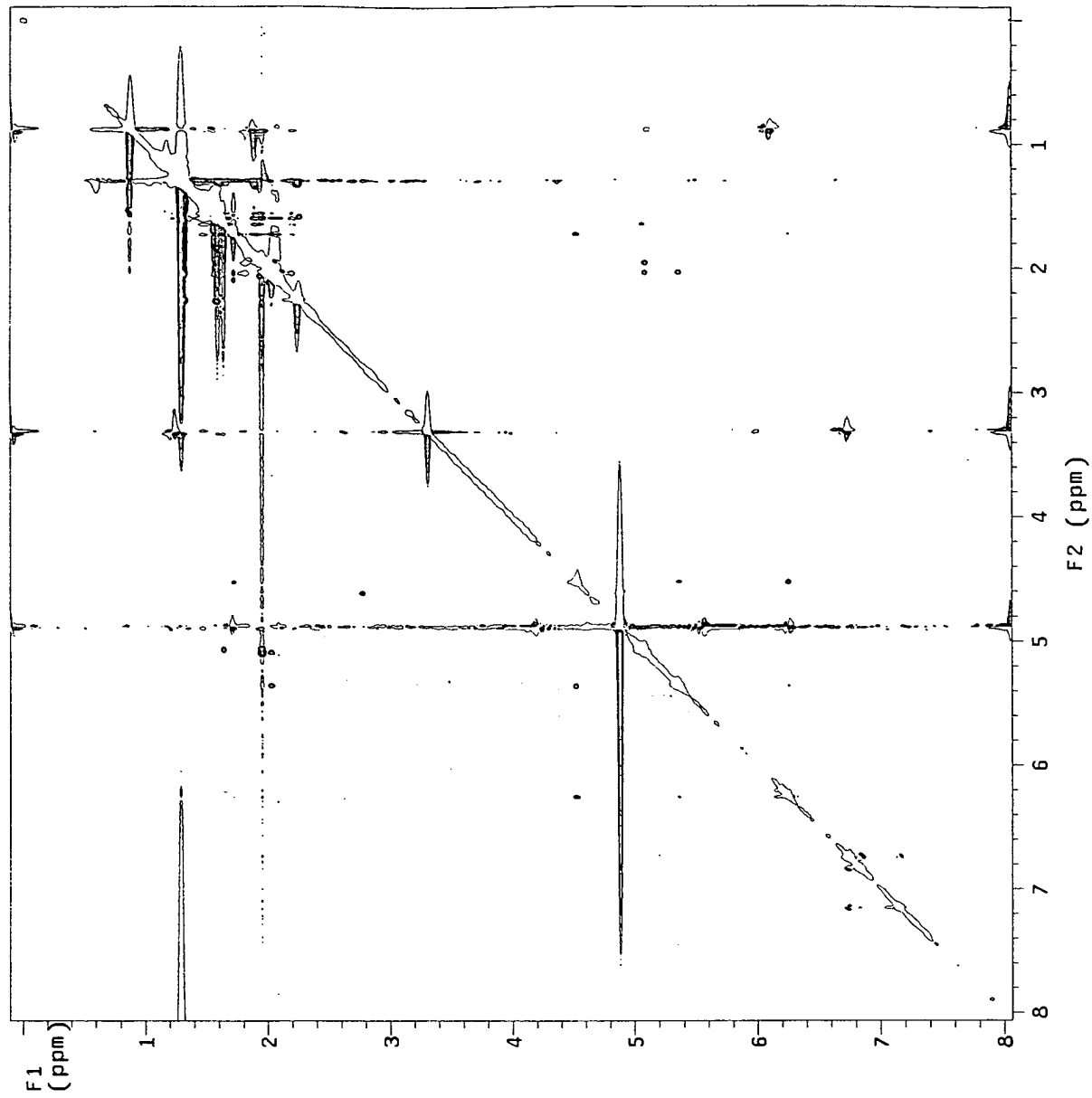


Figure 8

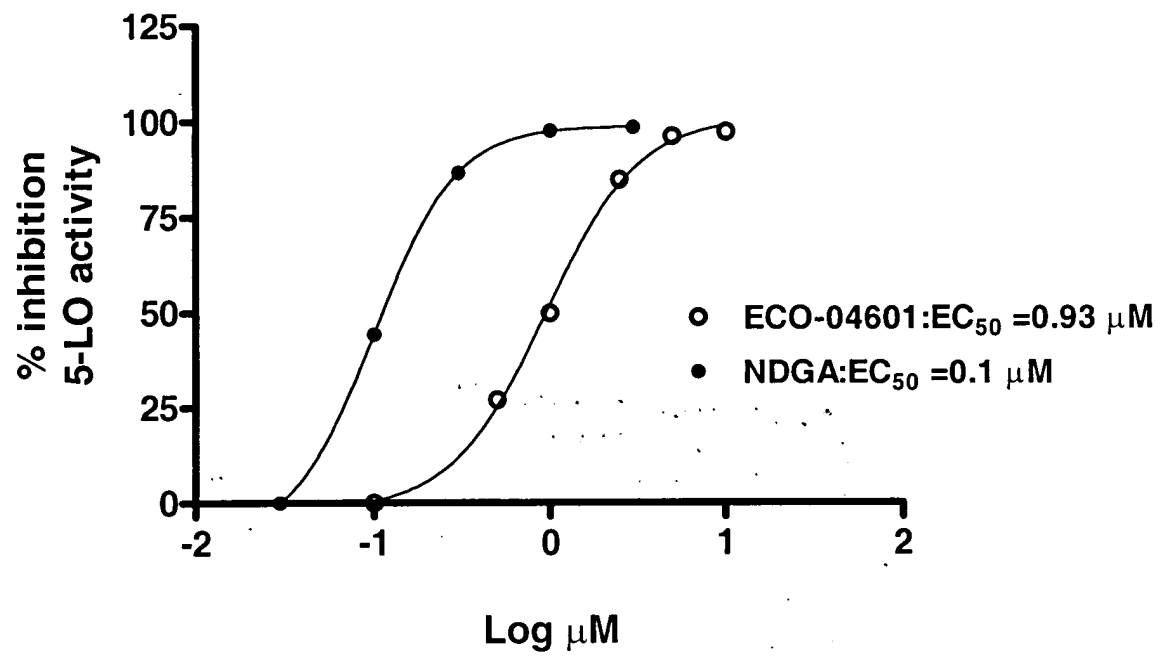


Figure 9

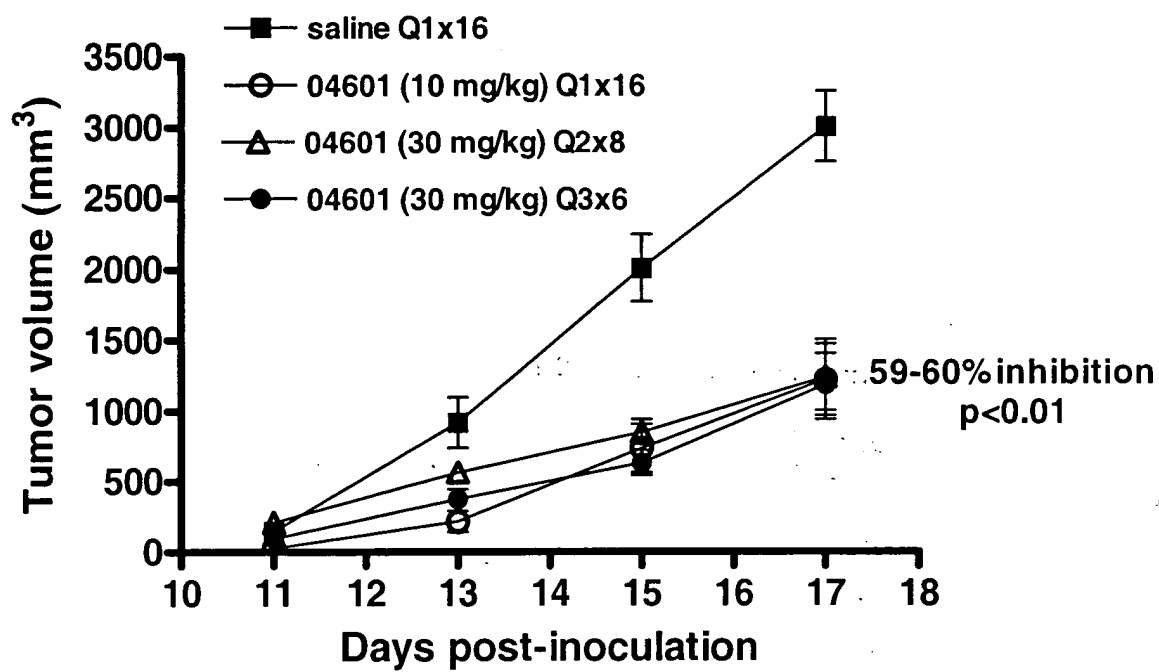


Figure 10

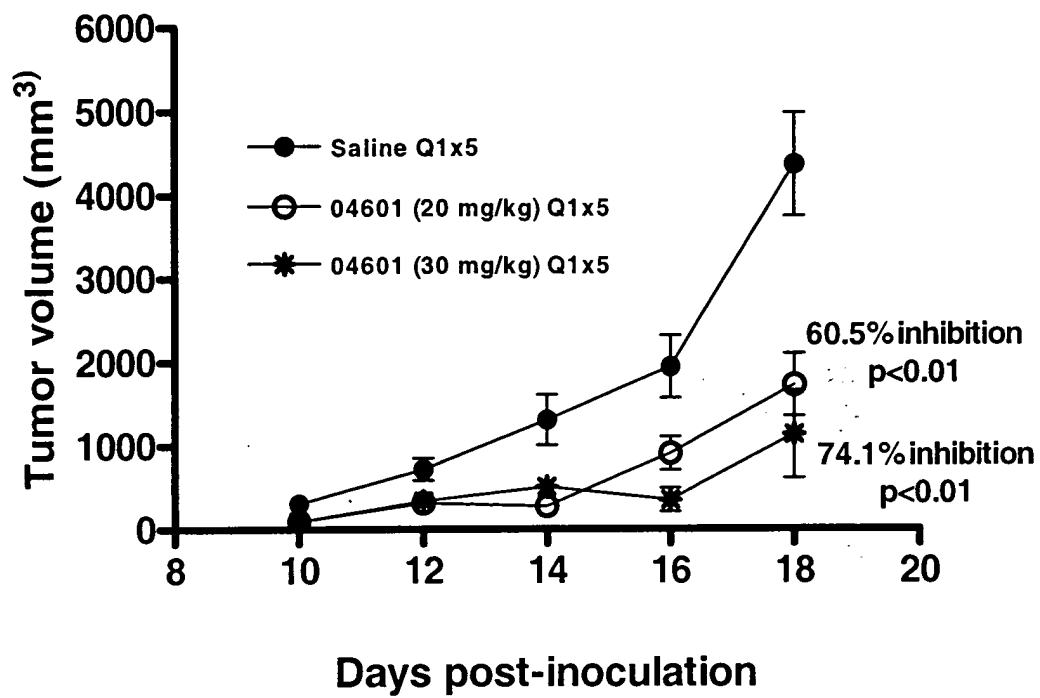
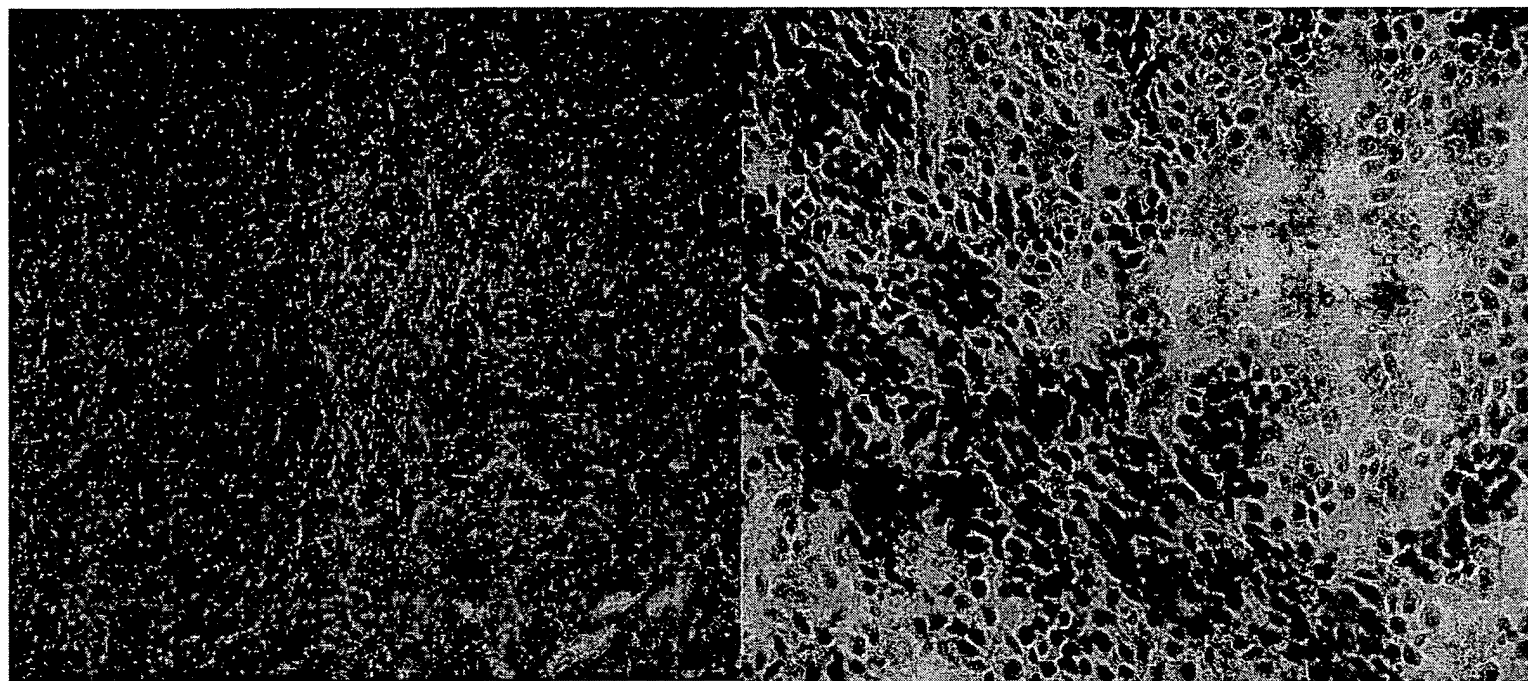


Figure 11



Saline

**ECO-04601
(20 mg/kg)**

Figure 12

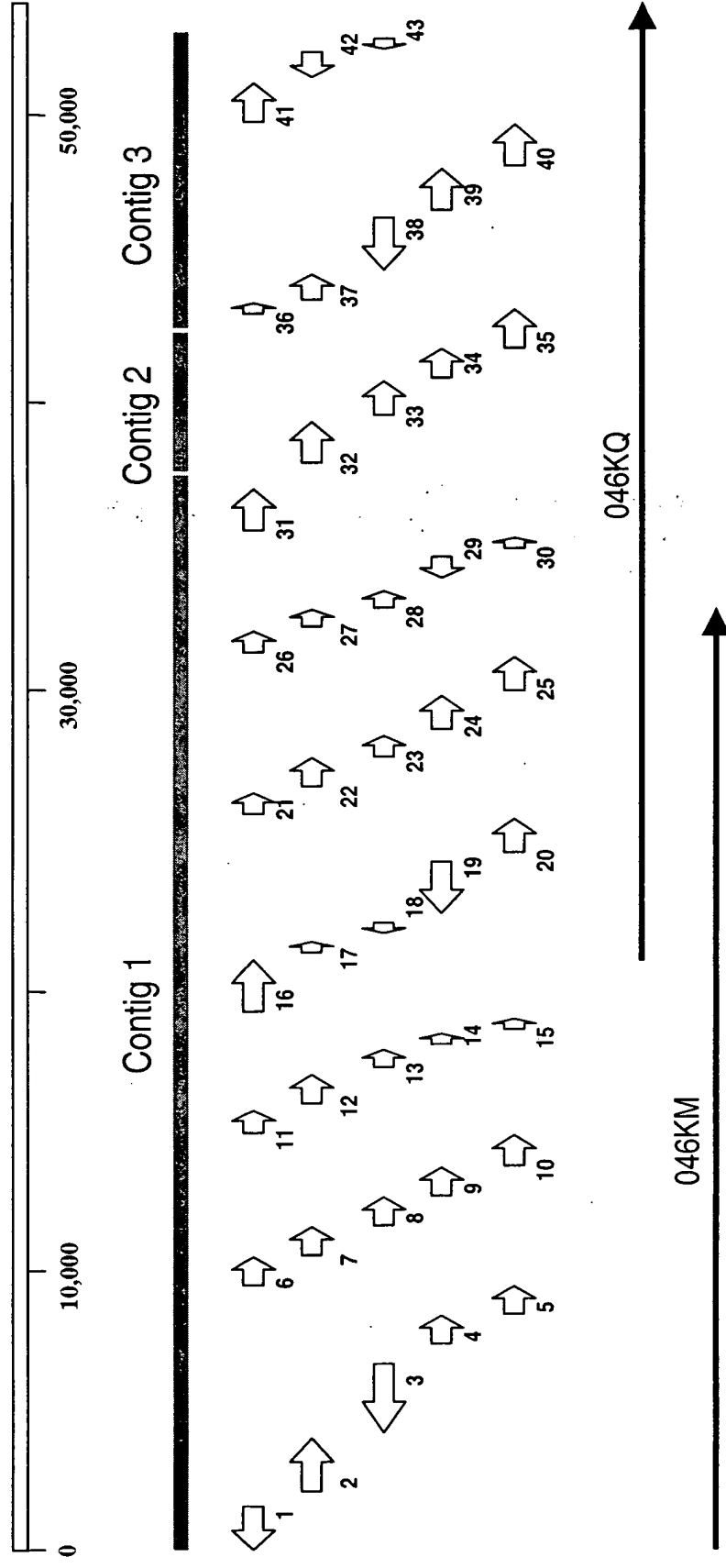


Figure 13

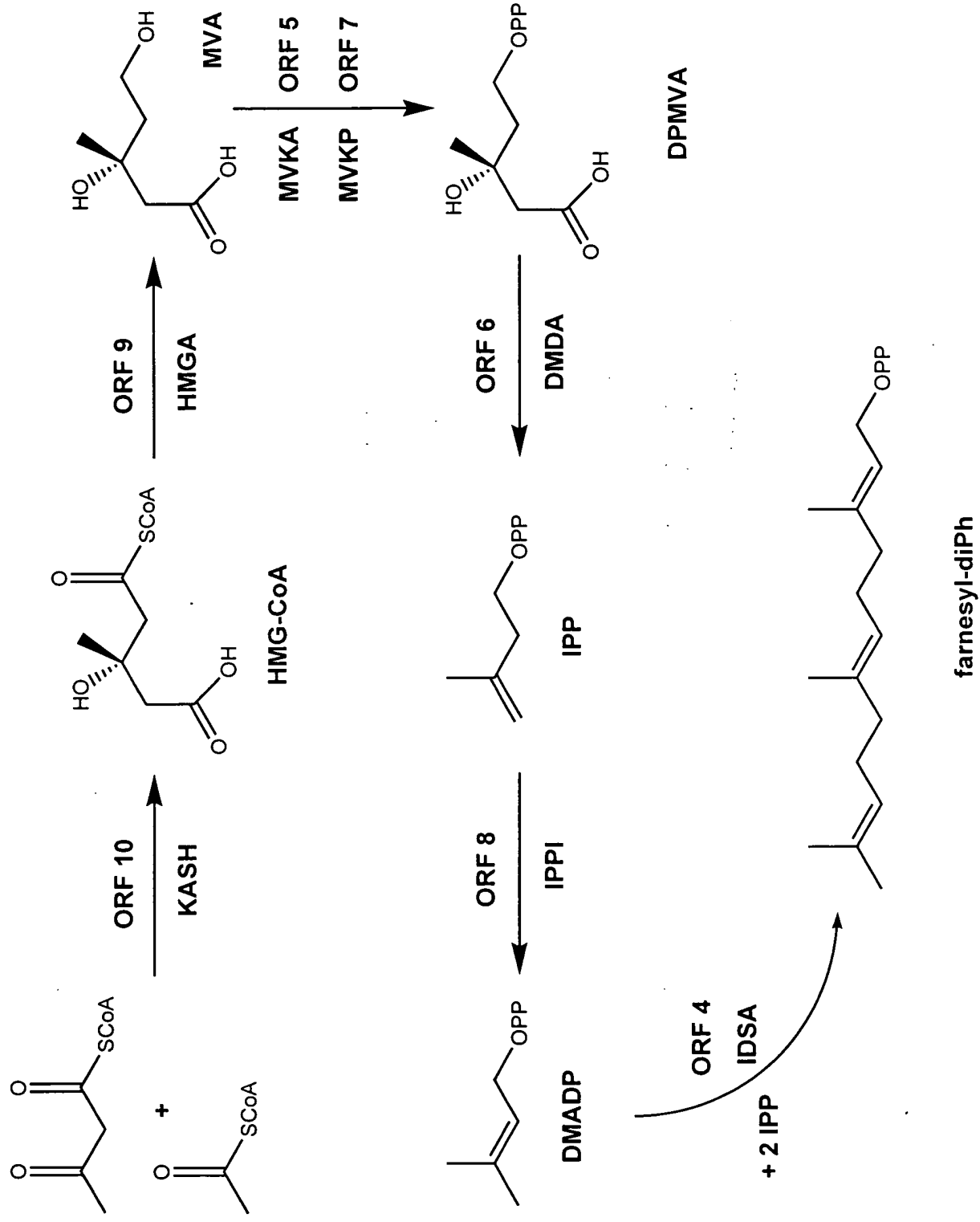


Figure 14

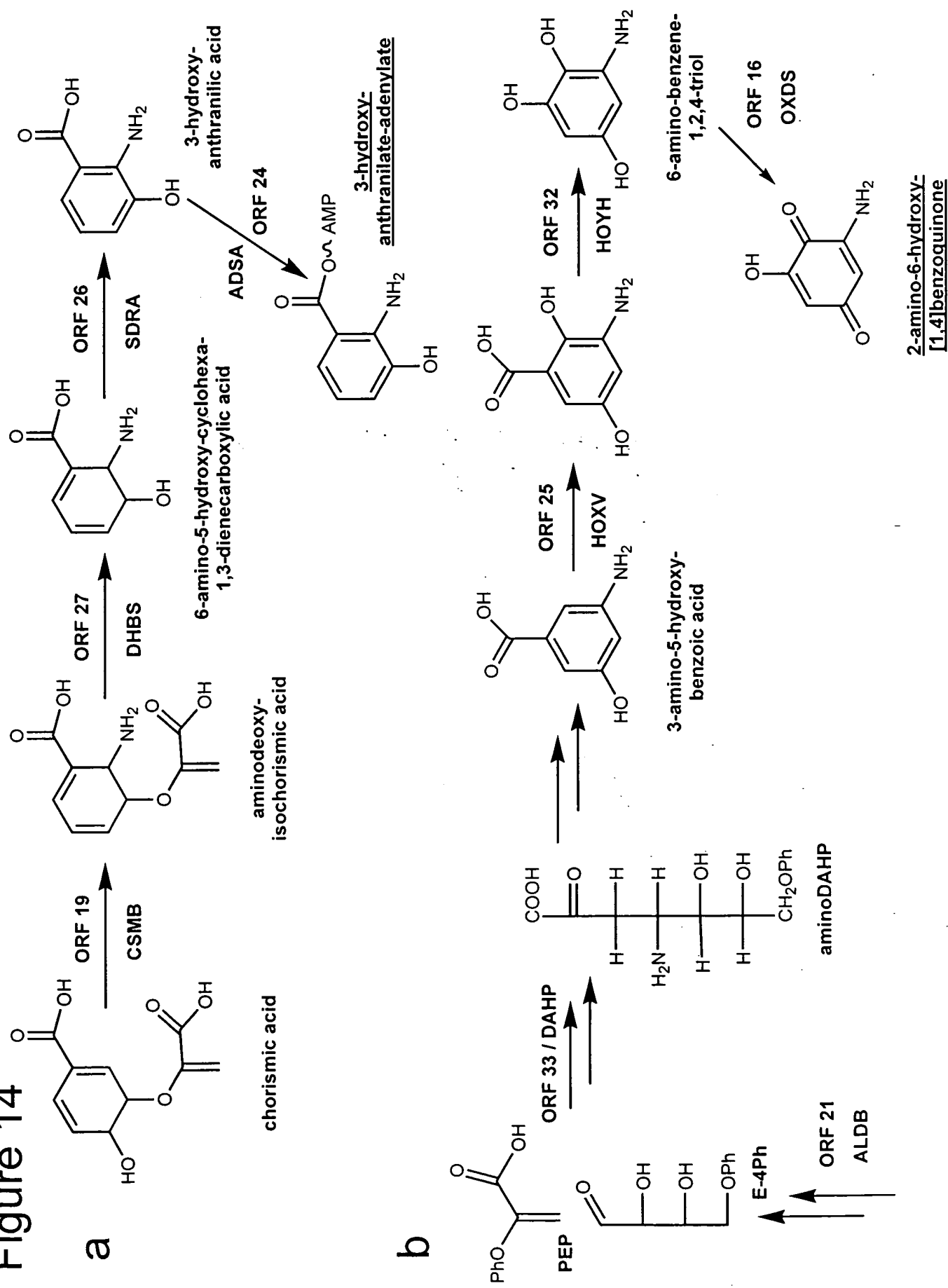


Figure 15

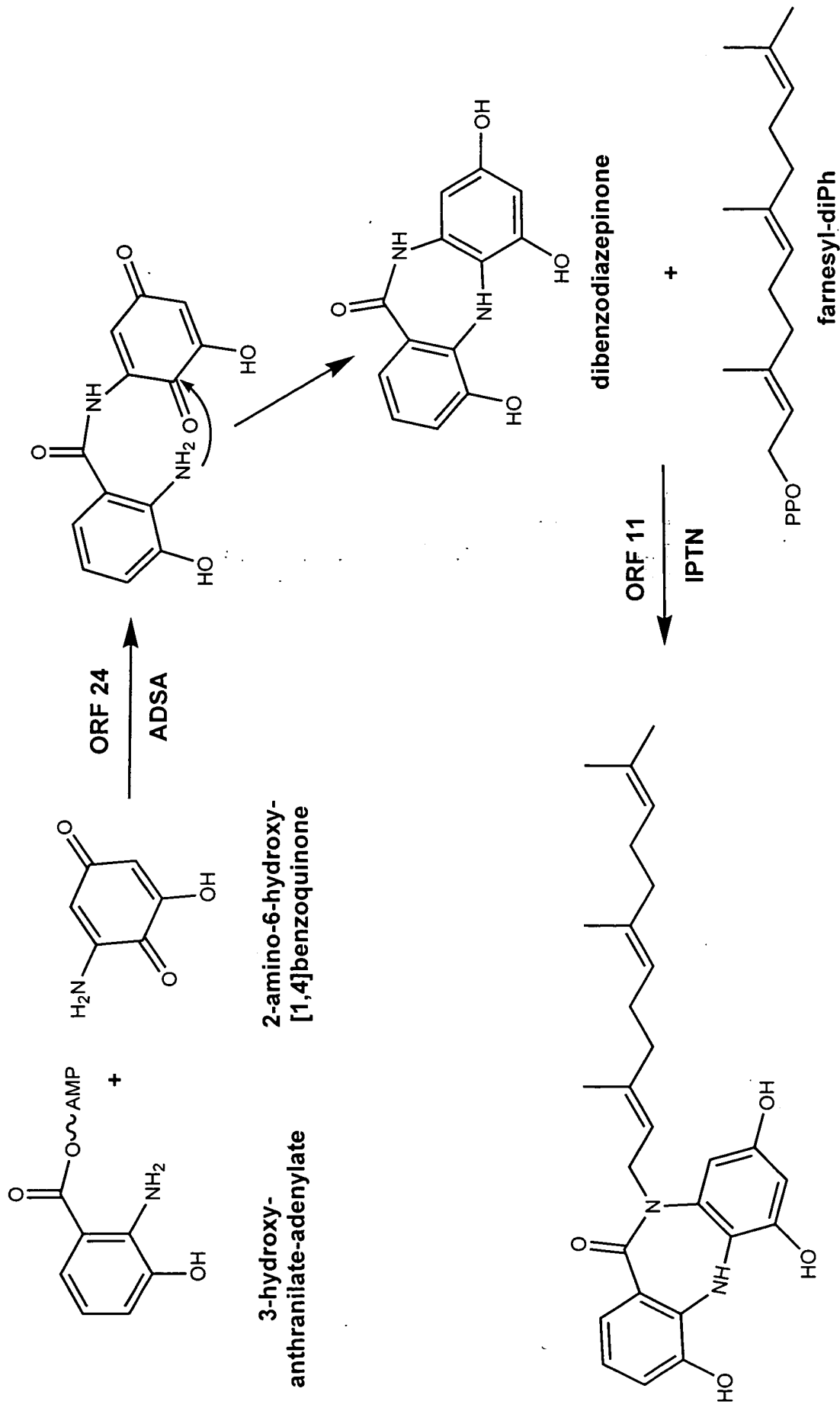


Figure 16

SEQUENCE LISTING TABLE

| SEQ ID NO. | AMINO ACID (AA) or NUCLEIC ACID (NA) | FUNCTION | ORF NO. |
|------------|---|----------|---------|
| 1. | NA | CONTIG 1 | |
| 2. | AA | ABCC | 1 |
| 3. | NA | ABCC | |
| 4. | AA | RECH | 2 |
| 5. | NA | RECH | |
| 6. | AA | REGD | 3 |
| 7. | NA | REGD | |
| 8. | AA | IDSA | 4 |
| 9. | NA | IDSA | |
| 10. | AA | MVKA | 5 |
| 11. | NA | MVKA | |
| 12. | AA | DMDA | 6 |
| 13. | NA | DMDA | |
| 14. | AA | MVKP | 7 |
| 15. | NA | MVKP | |
| 16. | AA | IPPI | 8 |
| 17. | NA | IPPI | |
| 18. | AA | HMGA | 9 |
| 19. | NA | HMGA | |
| 20. | AA | KASH | 10 |
| 21. | NA | KASH | |
| 22. | AA | IPTN | 11 |
| 23. | NA | IPTN | |
| 24. | AA | SPKG | 12 |
| 25. | NA | SPKG | |
| 26. | AA | RREB | 13 |

| | | | |
|-----|----|------|----|
| 27. | NA | RREB | |
| 28. | AA | UNES | 14 |
| 29. | NA | UNES | |
| 30. | AA | UNEZ | 15 |
| 31. | NA | UNEZ | |
| 32. | AA | OXDS | 16 |
| 33. | NA | OXDS | |
| 34. | AA | UNFD | 17 |
| 35. | NA | UNFD | |
| 36. | AA | UNFA | 18 |
| 37. | NA | UNFA | |
| 38. | AA | CSMB | 19 |
| 39. | NA | CSMB | |
| 40. | AA | AAKD | 20 |
| 41. | NA | AAKD | |
| 42. | AA | ALDB | 21 |
| 43. | NA | ALDB | |
| 44. | AA | UNFC | 22 |
| 45. | NA | UNFC | |
| 46. | AA | HYDK | 23 |
| 47. | NA | HYDK | |
| 48. | AA | ADSA | 24 |
| 49. | NA | ADSA | |
| 50. | AA | HOXV | 25 |
| 51. | NA | HOXV | |
| 52. | AA | SDRA | 26 |
| 53. | NA | SDRA | |
| 54. | AA | DHBS | 27 |
| 55. | NA | DHBS | |
| 56. | AA | SDRA | 28 |
| 57. | NA | SDRA | |
| 58. | AA | UNIQ | 29 |
| 59. | NA | UNIQ | |
| 60. | AA | UNFE | 30 |

| | | | |
|------------|----|----------|----|
| 61. | NA | UNFE | |
| 62. | AA | EFFT | 31 |
| 63. | NA | EFFT | |
| 64. | NA | CONTIG 2 | |
| 65. | AA | HOYH | 32 |
| 66. | NA | HOYH | |
| 67. | AA | DAHP | 33 |
| 68. | NA | DAHP | |
| 69. | AA | REGG | 34 |
| 70. | NA | REGG | |
| 71. | AA | UNFJ | 35 |
| 72. | NA | UNFJ | |
| 73. | NA | CONTIG 3 | |
| 74. | AA | RECI | 36 |
| 75. | NA | RECI | |
| 76. | AA | UNIQ | 37 |
| 77. | NA | UNIQ | |
| 78. | AA | OXAH | 38 |
| 79. | NA | OXAH | |
| 80. | AA | ABCA | 39 |
| 81. | NA | ABCA | |
| 82. | AA | UNIQ | 40 |
| 83. | NA | UNIQ | |
| 84. | AA | | 41 |
| 85. | NA | | |
| 86. | AA | | 42 |
| 87. | NA | | |
| 88. | AA | | 43 |
| 89. | NA | | |

Figure 17

| RT | Response | Ar/Ht | RFact | ECL | Peak Name | Percent | Comment 1 | Comment 2 |
|--------|----------|-------|-------|--------|----------------|---------|---------------------|------------------|
| 1.630 | 4.486E+8 | 0.026 | ----- | 7.012 | Solvent Peak | ---- | < min rt | |
| 1.874 | 754 | 0.024 | ----- | 7.505 | | ---- | < min rt | |
| 2.521 | 1314 | 0.026 | ---- | 8.810 | | ---- | < min rt | |
| 8.150 | 16710 | 0.041 | 0.980 | 14.621 | 15:0 ISO | 26.83 | ECL deviates 0.000 | Reference 0.000 |
| 8.288 | 3943 | 0.042 | 0.977 | 14.711 | 15:0 ANTEISO | 6.32 | ECL deviates 0.000 | Reference 0.001 |
| 9.767 | 2378 | 0.042 | 0.956 | 15.627 | 16: ISO | 3.73 | ECL deviates 0.001 | Reference -0.001 |
| 10.086 | 1692 | 0.047 | 0.953 | 15.819 | 16:1 CIS 9 | 2.64 | ECL deviates 0.002 | Reference |
| 10.385 | 2413 | 0.045 | 0.949 | 15.999 | 16:0 | 3.75 | ECL deviates -0.001 | Reference -0.003 |
| 11.106 | 11222 | 0.044 | 0.941 | 16.417 | 16:0 9? METHYL | 17.31 | ECL deviates 0.001 | Reference |
| 11.475 | 8905 | 0.046 | 0.937 | 16.630 | 17:0 ISO | 13.68 | ECL deviates 0.001 | Reference 0.000 |
| 11.634 | 11190 | 0.046 | 0.936 | 16.722 | 17:0 ANTEISO | 17.17 | ECL deviates 0.000 | Reference -0.001 |
| 11.757 | 2741 | 0.046 | 0.935 | 16.793 | 17:1 CIS 9 | 4.20 | ECL deviates 0.001 | Reference |
| 13.468 | 2898 | 0.049 | 0.920 | 17.771 | 18:1 CIS 9 | 4.37 | ECL deviates 0.002 | Reference |

ECL Deviation: 0.001

Total Response: 64093

Percent Named: 100.00%

Reference ECL Shift: 0.001

Total Named: 64093

Total Amount: 61014

Number Reference peaks: 6

Matches:

| Library | Sim Index | Entry Name |
|-------------|-----------|----------------------------------|
| ACTIN3 1.07 | 0.293 | <i>Micromonospora chalybeata</i> |

Figure 18

| | | |
|------------|-----|--|
| Alignment: | | |
| 0.00 % | 499 | <i>Micromonospora chalcea</i> |
| 1.00 % | 499 | <i>Micromonospora aurantiaca</i> |
| 1.50 % | 499 | <i>Micromonospora nigra</i> |
| 1.60 % | 499 | <i>Micromonospora halophytica nigra</i> |
| 1.60 % | 499 | <i>Micromonospora fusca</i> |
| 1.60 % | 499 | <i>Micromonospora brunnea</i> |
| 1.80 % | 499 | <i>Micromonospora halophytica halophytica</i> |
| 1.80 % | 499 | <i>Micromonospora sagamiensis flava</i> |
| 2.00 % | 499 | <i>Micromonospora pallida</i> |
| 2.00 % | 499 | <i>Micromonospora sagamiensis nonreductans</i> |

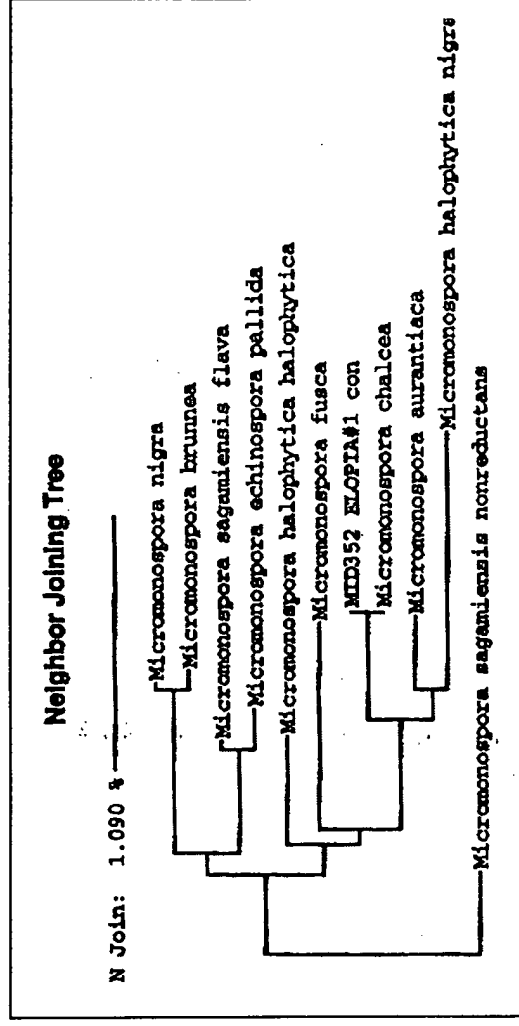


Figure 19

